TASK

PERFORM EXTERNAL RAFT DELIVERY SYSTEM (K-DUCK) OPERATIONS

WARNING

Ensure that crewmembers and the Castmaster in the cabin area are wearing a safety harness secured to a tiedown ring anytime the cabin doors are open.

CONDITIONS: In a UH-60 helicopter with a fully inflated combat rubber raiding craft (CRRC) installed, a raiding team, and a castmaster.

STANDARDS: Appropriate common standards plus these additions/modifications:

1. **Rated.**

a. Conduct a thorough crew and passenger briefing covering, aircraft safety, K-Duck operations and responsibilities during the CRRC operation. Verify the aircraft will remain within gross weight and CG limitations for the duration of the flight.

b. Verify that the CRRC has been inspected and safely prepared for K-DUCK operation by the Castmaster and NCM.

c. Maximum cruise airspeed with CRRC attached to aircraft utilizing the I-BAR/H-BAR is 130 KIAS without the optional floor extension and 145 KIAS with the optional floor extension installed. Maximum airspeed utilizing the cargo hook is 120 KIAS.

d. Perform a smooth, controlled descent to 10 feet AGL and 10 KIAS (brisk walk) over the drop area.

2. **Nonrated.**

a. Ensure aircraft is configured for K-DUCK operations, the ERFS is securely attached, confirm removal of all antennas that could puncture the raft, and inspect the I-BAR/H-BAR if installed.

b. Perform crew coordination actions.

c. Deploy the CRRC (if I-BAR/H-BAR is installed) when directed by the PC.

DESCRIPTION:

1. **Crew actions.**

a. The PC will conduct a crew and passenger briefing and ensure all personnel are familiar with aircraft safety and emergency procedures IAW the unit SOP.

b. The P* should make the approach into the wind if possible. He will slow to the desired airspeed and altitude (10 KIAS at 10 feet). He will maintain airspeed and altitude until the CRRC and all raid team members have departed the aircraft.

NOTE: Anything faster or higher could result in damage to the CRRC or aircraft. The pilot cannot rely on the airspeed indicator below 40 IAS; the airspeed should not exceed that of a brisk walk.

c. The P will provide the P* with information regarding airspeed and altitude. The P will also monitor the cockpit indications. The P and NCM will announce when his attention is focused inside the aircraft and again when attention is reestablished outside.

d. The NCM will assist the Castmaster as necessary. The NCM will release the CRRC by cutting the shear strap in the cabin area when at the proper location.

2. Procedures.

a. The castmaster and NCM will ensure the aircraft is rigged IAW unit SOP, conduct a visual inspection of the K-DUCK system, I-BAR, and confirm removal of aircraft belly antennas.

b. Upon arrival at the hookup site the crew will take commands from the ground hookup crew and NCM to align the aircraft over the CRRC. Once centered, land the aircraft carefully on the CRRC. The CRRC may now be attached to the aircraft. The NCM and castmaster will assist in the attachment of the CRRC to the aircraft IAW the airworthiness release and unit SOP.

NOTE 1. The aircraft must land to accomplish the hookup. Do not extend the struts; landing on suitable chocks is approved if clearance is not adequate under the aircraft.

NOTE 2. As the helicopter approaches, the hookup crew will hold or lay on the CRRC to prevent it from moving due to the rotorwash.

NOTE 3. Maximum weight of the CRRC for external transport utilizing the I-BAR/H-BAR is 1500 lbs. Maximum weight of the CRRC for external transport utilizing the cargo hook is 475 lbs.

NOTE 4. Do not route any attachment lines around the wheels of the aircraft. Ensure that all lines are routed to inside of the wheels.

c. Once the CRRC has been attached to the aircraft, lift the CRRC off the ground to a 10 foot stabilized hover. During the hover verify power available, aircraft controllability, and accuracy of the radar altimeters. After completion of the hover check land the aircraft and tighten all ratchets as much as possible. Ensure that all excess line is folded and taped to the ratchets. Repeat this step if necessary to ensure the CRRC is rigged as tightly as possible against the aircraft.

d. Upon departure, a safe airspeed will be established to determine how well the CRRC is riding before accelerating to the mission airspeed. The NCM and castmaster will monitor the load and keep the pilots informed as to the stability of the CRRC.

e. Upon arrival at the drop site, a progressive deceleration and descent will be initiated. The castmaster or NCM will give corrections as to the aircraft alignment with the drop area. The P will call out the aircraft altitude and airspeed starting at 100 feet in 10 feet and 10 KIAS intervals. The PC will give the castmaster “10 minutes out”, “5 minutes out”, and “one minute out” alert calls. The PC at “one minute out” will announce “AT THE READY LINE”. The castmaster will relay these alert calls to the raid team members. Upon receiving the command “AT THE READY LINE” the Helocast master will announce “AT THE READY LINE” at which time all participants will remove the restraint devices and be ready to position themselves in the door for the jump.

f. The approach should be made into the wind. Approach speed is 80 KIAS maximum from the release point to the area of the drop site. The approach is situational dependent and may be either a VMC, or a terrain flight approach. After arrival at the drop site slow to the desired airspeed and altitude 10 knots at 10 feet. The pilot’s visibility may become limited due to the spray from the water. The P will turn on the wipers if required.

g. When the aircraft has established the proper position, airspeed, and altitude, and has arrived at the drop site, the PC will give the castmaster the command “AT THE START LINE”. The castmaster will confirm the position, airspeed, and altitude are safe, and give the command “GET SET” to the NCM. At the command “GET SET” the NCM will position himself to release the CRRC. The castmaster will give the command DROP at which time the NCM will cut the shear strap to release the CRRC. The NCM will announce RAFT AWAY. The castmaster will announce RAFT AWAY at which time the team members will position their legs to hang out the cabin door. The castmaster will then tap each team member on the shoulder and give the command “GO”. On the command “GO”, each team member will exit the aircraft per the instruction received during the safety briefing. The castmaster may also jump, but must always exit last. After entering the water all team members will indicate that they are unhurt by raising one arm overhead. The aircraft will not leave the area until all team member report no injuries. The P* will maintain heading, altitude, and airspeed until the last team member has exited the aircraft.

h. After deployment, the drop profile is terminated by increasing altitude and airspeed to the desired mode of flight.

OVERWATER CONSIDERATIONS: Overwater flight, at any altitude, is characterized by a lack of visual cues, and therefore, has the potential of causing visual illusions. Be alert to any unannounced changes in the flight profile and be prepared to take immediate corrective actions. The radar altimeter low bug should be set to assist in altitude control. Hazards to terrain flight such as harbor lights, buoys, wires, and birds must also be considered during overwater flight.

NOTE: There is a high probability the Doppler (AN/ASN-128) MEM indicator lamp will light while flying over glassy smooth water. However, if the lamp remains on for over 10 minutes, over land or rough water, there is a malfunction in the Doppler set.

NIGHT OR NVG CONSIDERATIONS: Spatial disorientation can be overwhelming during over water operations at night. If there are visible lights on the horizon or if the shoreline can be seen, the pilot may opt to approach the cast area so the aircraft is pointed toward these references, if the wind permits. Proper scanning techniques are necessary

TRAINING AND EVALUATION REQUIREMENTS:

1. **Training.** Training will be conducted in the aircraft.

2. **Evaluation.** Evaluation will be conducted in the aircraft.

REFERENCES: Appropriate common references plus the following:

External raft delivery system airworthiness release.

TC 31-25

USASOC Reg 350-6